

Macdonald, Eleanor J., "Air Pollution, Demography, Cancer: Houston, Texas," JAMWA 31(10): 379-395, October, 1976.

"With the reasonable assumption that the general urban pattern of cigarette smoking exists in Houston, and with the products of automobile combustion nearly evenly distributed over all of the city, the evidence is overwhelming that the environmental factors of exposure over time to air and industrial pollutants in Houston has had a demonstrable effect in doubling regional mortality from cancer of the respiratory tract in the last 15 years as well as from other diseases and conditions of the respiratory tract and from heart disease."

p. 394

"It is increasingly clear that there is no simplistic answer to the cause of respiratory cancer or cancer of many other sites."

p. 395

Latif, M., "The Environment and Bronchial Carcinoma," Med. Welt 27(32): 1517-1522, 1976. [Unofficial Translation]

"[T]he nature and quantity of cigarette smoking appears to be without importance for most cases or for the increased incidence of this type of cancer [bronchial]. Thus it is more important to devote attention to the effects of various environmental factors."

p. 6, translation

"[T]he smoker etiology is not sufficient to explain all cases of bronchial carcinoma. We have searched for other causes and found that various environmental influences are the cause of bronchial carcinoma."

p. 12, translation

2026259358

Bouhuys, Arend, et al., "Chronic Respiratory Disease in Hemp Workers,"  
Annals of Internal Medicine 84(4): 398-405, 1976.

"The comparison of younger nonsmoking hemp workers with younger smoking controls provides the best available indication of the relative risks of smoking and hemp-dust exposure that can be derived from our present study. There is no clear evidence of interactions between smoking and hemp-dust exposure with respect to loss of lung function."

p. 404

Saart, James D., "Lung Association Study Shows Indoor Pollution,"  
American Lung Association Bulletin 62(9): 14-16, 1976.

"WARNING: Automobile commuting, working in a gas station, and indoor skating may be hazardous to your health! Studies sponsored by the American Lung Association of Massachusetts show that carbon monoxide (CO) exposures during these activities often exceed the national air quality standards set for protecting the public's health. . . . Auto commuters receive double the CO exposure of commuters on rail mass transit. Auto mechanics at gas stations and dealerships can face dangerous levels of the noxious gas. And skaters at both private and public indoor skating rinks are exposed to CO levels well over the safe standards set for outside air quality."

pp. 14-15

2026259359

Sterling, Theodor D., Professor of the Faculty of Interdisciplinary Studies and Director of the Computing Science Program, Statement, Hearings Before the Subcommittee on Health of the Committee on Labor and Public Welfare, United States Senate, 1976.

"There is now a growing understanding of how many diseases are caused by toxic dusts, fumes, and chemicals, most of them of industrial origins. The belief that smoking is the major cause of mortality and morbidity from these diseases initially may have rendered a valuable service by convincing the public that pollutants in man's environment may present a serious public health hazard. The same belief today distracts from the real hazards to which we are exposed in our modern industrial society."

p. 456

Sterling, Theodor D., "Does Smoking Kill Workers or Working Kill Smokers? or The Mutual Relationship Between Smoking, Occupation and Respiratory Disease," Presentation for School of Workers, University of Wisconsin Extension, pp. 1-17, April 18-22, 1977.

"While cigarette smoking has been widely accepted by physicians and public health workers alike as the major cause of many lung diseases, a score of scientists have continued to point to the flaws, irregularities, and contradictions in the smoking and health data. Some even feel that some of the effects of occupational exposures may have been MASKED by poorly designed and ineptly analyzed smoking studies. Enough evidence exists now to seriously question the widespread conviction that cigarette smoking is the primary cause of lung disease, especially cancer and chronic obstructive disease."

p. 1

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Sterling, Theodor D., "Does Smoking Kill Workers or Working Kill Smokers? or The Mutual Relationship Between Smoking, Occupation and Respiratory Disease," Presentation for School of Workers, University of Wisconsin Extension, pp. 1-17, April 18-22, 1977.

"A so-called 'expert' opinion that often is quoted provides exact values for the number of respiratory diseases caused by smoking. Perhaps the most striking example was furnished in the 1972 report on ENVIRONMENTAL POLLUTION EFFECTS transmitted to Congress by President Nixon. Nixon charged that for lung cancer '95 per cent of the disease is attributable to cigarette smoking' and that 'cigarette smoke is clearly the chief cause and explains about 90 per cent of the chronic and obstructive disease.' Yet there is no scientific basis to justify these calculations. In 1972 such claims seem to have been used to justify diverting much needed funds from environmental and occupational health research. But the primary victims of these expert pronouncements may be workers with a history of smoking who are disabled by occupational respiratory disease. They may be deprived of large parts, if not of all, compensations to which they are entitled. The facts suggest that if a worker has smoked, then his compensation award may be decreased or denied altogether. [A]ttorneys [have] estimated that compensations will, on the average, be cut by approximately one-third when smoking is part of a worker's history. (Workers who have smoked heavily may not collect any compensation at all.)"

p. 1

"When both smoking and occupation are taken into account . . . it is the occupation and not smoking that appears to be the major cause of lung cancer."

p. 3

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Sterling, Theodor D., "Does Smoking Kill Workers or Working Kill Smokers? or The Mutual Relationship Between Smoking, Occupation and Respiratory Disease," Presentation for School of Workers, University of Wisconsin Extension, pp. 1-17, April 18-22, 1977.

"The expected proportion of all cancer deaths among males is approximately 17 per cent indicating that the cancer rate among asbestos workers is about three times that of comparable U.S. males. Recently Johns Manville insisted on writing a no-smoking clause in a union contract. Perhaps this is just one more attempt to divert attention away from the hazard of work with asbestos."

p. 6

"[I]n our recent study of pulp and paper mill workers with severe respiratory deficiencies, we found that 62 percent had a history of smoking while such history was found among 66 percent of the other workers. Thus smoking was less prevalent among workers with signs of respiratory failure than among those with no such signs. (But there was a relation to high exposure to fumes.) In another survey of about 1800 compensation claims we found that 56 percent of disabled workers had a smoking history which is low for blue collar workers."

"In analyzing the available evidence, we do not find support for claims that smoking is the major hazard to workers' lungs - it's their jobs which seem to cause their illness."

p. 6

"[S]moking appears to be a habit strongly tied to those social classes that make up the laboring forces. [T]his finding is of extreme importance. [T]he burden of any legislation relating to smoking fall[s] primarily on working people . . . ."

p. 7

2026259362

Sterling, Theodor D., "Does Smoking Kill Workers or Working Kill Smokers? or The Mutual Relationship Between Smoking, Occupation and Respiratory Disease," Presentation for School of Workers, University of Wisconsin Extension, pp. 1-17, April 18-22, 1977.

"The ease with which lung cancer can be produced in animals using a wide variety of industrial pollutants and the failure so far to produce lung cancer by tobacco smoke are important factors that have long been neglected in trying to assess the effect of smoking on lung cancer and other lung diseases."

p. 12

"Smoking appears to have been used to divert attention away from the effects of occupational and of environmental exposures. . . . It is of the greatest importance in this connection that to our knowledge not one Cancer Registry in Canada and the U.S. bothers to determine the occupation of lung or other cancer cases although information on smoking always is included."

p. 14

Sterling, Theodor D. and Diana M. Kobayashi, "Exposure to Pollutants in Enclosed 'Living Spaces,' Environmental Research 13: 1-35, 1977.

"Unfortunately, many of the studies measuring dust or CO in the smoker's environment innocently assume zero levels of these contaminants in the absence of smoke so that the addition of smoking to the overall pollution can be assessed only approximately. . . . It is clear that while smoking adds to overall pollutant levels, it is only one other, and a relatively minor, source of pollution."

pp. 17-18

Anonymous, "'Deadly' Asbestos Danger," The Kansas City Times, p. 9A, February 24, 1973.

"Calling asbestos a 'hidden time bomb' a noted researcher told a Senate subcommittee yesterday the fibrous mineral will claim one million American lives by the year 2000. . . . Millions of other persons are exposed to asbestos fibers to an unknown degree every day of their lives, without their knowledge, he said. 'We all are now contaminated with asbestos,' he [Selikoff] said."

Anonymous, "Disagrees On Pilot Smoking," Aberdeen AM News, Aberdeen, South Dakota, 4/29/76.

"Psychology Prof. Dr. Norman Heimstra, University of South Dakota (USD), . . . dean of the USD graduate school and director of the Human Factors Laboratory at USD, says those claims . . . that smoking inhibits performance, especially when carbon monoxide combines with high altitudes . . . are not documented.

"'If anything, in some situations smokers may make the better pilots,' he said in a prepared statement."

Bremmer, Charles, "London's 'Pea Soupers' Only a Fading Memory," The Washington Post, January 28, 1977.

"With nearly [coal] smoke-free air now taken for granted, respiratory disease has ceased to be the main cause of deaths recorded at St. Bartholomew's Hospital in central London."

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**9. WOMEN & SMOKING**



Ontario Perinatal Mortality Study Committee, Second Report of the Perinatal Mortality Study in Ten University Teaching Hospitals, Ontario Department of Health, Ontario, Canada, 1967.

"There was no evidence that smoking was associated with a higher incidence of congenital malformations. There was no indication, either, of higher perinatal mortality among infants born to mothers who smoked."

p. 28

National Academy of Sciences, Committee on Maternal Nutrition, Maternal Nutrition and the Course of Pregnancy, National Academy of Sciences, Washington, D. C., 1970, 241 pp.

". . . smoking is not significantly associated with excess fetal or neonatal mortality or the incidence of congenital malformation."

p. 14

Yerushalmy, J., "The Relationship of Parents' Cigarette Smoking to Outcome of Pregnancy Implications as to the Problem of Inferring Causation From Observed Associations," American Journal of Epidemiology 93(6): 443-456, June, 1971.

". . . neonatal mortality rate and the risk of congenital anomalies of low-birth-weight infants were considerably lower for smoking than for nonsmoking mothers."

p. 443

2026259366

Yerushalmy, J., "Infants with Low Birth Weight Born Before Their Mothers Started to Smoke Cigarettes," American Journal of Obstetrics and Gynecology 112(2): 277-284, January 15, 1972.

"Smoking mothers have a higher incidence of low-birth-weight infants, but infants of smoking mothers do not suffer higher perinatal mortality rates than those of nonsmokers. The low-birth-weight infants of smoking mothers have considerably lower perinatal mortality rates than low-birth-weight infants of non-smoking mothers."

pp. 282-283

"These findings raise doubts and argue against the proposition that cigarette smoking acts as an exogenous factor which interferes with the intra-uterine development of the fetus. Rather, the evidence appears to support the hypothesis that the higher incidence of low-birth-weight infants is due to the smoker, not the smoking."

p. 283

Yerushalmy, J., "Cigarette Smoking and Low-Birth-Weight Babies: Reply to Mr. Goldstein," American Journal of Obstetrics and Gynecology 114(4): 571-573, October 15, 1972.

"The hard scientific data show conclusively that it is not reasonable to expect that giving up smoking will cause a rise in birth weight."

p. 573

2026259367

Hueper, Wilhelm C., "Lung Cancer and Smoking in Perspective," Lawyers' Medical Cyclopedia. . . .of Personal Injuries and Allied Specialties, Charles J. Frankel, Ed., Revised Vol. Five, The Allen Smith Company, Indianapolis, pp. 559-568, 1972.

"The gradual rise of the lung cancer rate among females in recent years in some countries has been ascribed to the growing adoption of this habit [cigarette smoking] by women. However, the presence of high lung cancer rates among women of several countries (occidental-Israeli women in Israel; Mexican-born women in California; women in Iceland) which cannot be explained by excessive cigarette smoking (although this has been tried), do not support such sweeping contentions.

"Considering also that women are becoming exposed to the large number of environmental respiratory carcinogens as men do when they enter public life, and that the degree of pollution of the occupational and environmental atmosphere with these agents has grown to an astonishing degree for most of these agents, it is not surprising that the lung cancer rates of women exhibit a trend similar to that of men."

p. 565

Hickey, R. J., et al., "Smoking, Birth-Weight, Development and Pollution," Lancet, February 3, 1973, p. 270.

"Perhaps a self-selected subgroup of women exists which is constitutionally more likely to (a) smoke, (b) have smaller babies, and (c) be more vulnerable to the effects of some environmental mutagenic hazards than nonsmoking controls."

2026259368

Yerushalmy, J., "Congenital Heart Disease and Maternal Smoking Habits," Nature 242: 262, March 23, 1973.

"We found no difference in the proportion of smokers and non-smokers between mothers of affected and unaffected children. Thus we found no difference between the children of smoking and non-smoking mothers with regard to incidence of congenital heart disease."

". . . the mortality rate is not greater for infants of smokers, and the perinatal mortality rate of low birth weight infants of smoking mothers is significantly lower than that of low birth weight infants of non-smoking mothers."

Pettersson, F., et al., "Perinatal Mortality," Acta Paediatrica Scandinavica 62(3): 221-230, May, 1973.

"Babies of primiparae with breech deliveries and of smoking mothers showed lower perinatal mortality rates than children of corresponding contrasted mothers. . . ."

pp. 228-229

Yerushalmy, J., "Effects of Smoking on Offspring," Contemporary Obstetrics and Gynecology 1(5): 13-15, May, 1973.

"Smoking may be considered an index that characterizes the smoker, but smoking, per se, is only incidental as a causal factor in the observed phenomena. In short, the difference in incidence of LBW (low-birth-weight) may be due to the smoker not the smoking."

p. 14

"This evidence . . . suggests that antismoking efforts will not lead to a rise in the average birthweight of infants nor to a lowering of the perinatal mortality rate. Indeed, it is important to consider that efforts to persuade women to stop smoking during pregnancy because of the alleged threat to their infants may produce undesirable guilt feelings and emotional stress in those women who find it impossible to stop."

p. 15

Allen, Lt. H.B., et al., "Smokers Wrinkles?", Journal of the American Medical Association 229: 1067-1069, August 27, 1973.

"On the basis of clinical and histologic examinations, wrinkles in the 'crow's foot' area were shown to be caused by actinic exposure, not by cigarette smoking. By including black patients in our study, the factor of sunlight exposure was effectively controlled; in these patients (smokers and nonsmokers), facial wrinkles were absent."

p. 1067

"The 'prime' cause for wrinkling in exposed skin is actinic radiation. . . . Smoking plays no important role in the development of wrinkled skin in the 'crow's foot' area or elsewhere."

p. 1068

2026259370

Hickey, R. J., et al., "Smoking Hazards to the Fetus," British Medical Journal 3: 552, September 8, 1973.

". . . 'the smoking behaviour of women and the birth weights of their children are influenced by a common cause--the individual genotype' or constitution."

Editorial, "Smoking, Pregnancy and Publicity," Nature 245: 61, September 14, 1973.

"The woman who can give up smoking easily is a different type of person from the one who cannot, and for all we know may be less prone to perinatal fatality and light babies. There is a danger in all statistical studies in moving from parameters to the physical world. . . . We can likewise infer that those who gave up smoking on average improved their children's health prospects but we cannot, from statistics, infer how or even that smoking is the key to it.

"Mothers-to-be have always been under pressure to avoid excessive weight gains and this pressure, it is well known, frequently causes distress. Cigarettes often keep both weight and nerves under control-- it is quite possible that advice to stop smoking may have exactly the wrong effect on the mother's total health."

Burch, P. R. J., "Smoking, Pregnancy and Publicity," Nature 245(5423): 277, October 5, 1973.

". . . : the best-surviving low-birth-weight infants were born of couples in which the wife smoked and the husband did not: the most vulnerable were produced by couples in which the wife did not smoke and the husband did."

2026259371

Hardy, J. B., "Birth Weight and Subsequent Physical and Intellectual Development," New England Journal of Medicine, pp. 973-974, November 1, 1973.

"Factors such as low socioeconomic status, extremes of maternal weight gain during pregnancy all adversely affect birth weight. . . . Among 32 factors affecting birth examined simultaneously . . . the amount of weight gained by the mother during pregnancy and her prepregnant weight showed the strongest correlations with the weight of the infant at birth. . . ."  
p. 973

"We failed (Hardy & Mellits, Lancet 2: 1332-1336, 1972) to demonstrate statistically significant differences in physical growth and intellectual performance of seven-year-old children of women who had smoked 10 or more cigarettes per day throughout pregnancy as compared with those of women who had not smoked. . . ."  
p. 974

Burch, P. R. J., "Smoking and Pregnancy," Nature 246: 177, November 16, 1973.

"This collective evidence therefore fails to corroborate the causal hypothesis. Each of its features is remarkably consistent with the view that the smoker, rather than the smoking, is responsible for the high incidence of low birth weight infants."

2026259372

James, W. H., "Smoking in Pregnancy," Nature 246: 235, November 23, 1973.

"It seems likely that smokers, in general, lead a markedly different life-style from non-smokers, and that the life-style of the smoking mother during pregnancy may be less supportive of the developing fetus. So it is proper to be cautious in interpreting the association between maternal smoking and perinatal death."

Haydon-Baillie, M., FRCS, "Responsible Enthusiasm," World Medicine, London, Cutting #3096, June 19, 1974.

"[F]irstly, I for one do not credit the simple belief that smoking is a cause of pulmonary disease; secondly, those persuaded to relinquish smoking tend to overeat thereafter; and thirdly, the review of statistics by Hinshaw and Garland shows inexplicable variations in the incidence of lung cancer in smokers, notes that cancer of the more affected larynx is comparatively rare and concludes that the lung cancer incidence in smoking females has been declining since 1960 and that in males it will decline from a peak in 1983."

Johnstone, F. & L. Inglis, "Familial Trends in Low Birth Weight," British Medical Journal 3: 659-661, 1974.

". . .when those patients who were known not to smoke were studied the sisters of the mothers of light-for-date babies group still had lighter babies than the other groups combined and this was also true of those patients who were known to smoke."

p. 660

"In conclusion, our findings do offer support for the Ounsted theory. There can be no doubt that sisters of women who have produced a light-for-date baby tend to have babies with relatively reduced intrauterine growth. This tendency is independent of social class, maternal size, or smoking habits."

p. 661

2026259373



Miller, H. C., & K. Hassanein, "Maternal Factors in 'Fetally Malnourished' Black Newborn Infants," American Journal of Obstetrics & Gynecology 118(1): 62-67, 1974.

"Maternal factors significantly associated with 'fetal malnutrition' included a poor maternal weight gain, little or no prenatal care, pre-eclampsia, and chronic major illness. Maternal factors that were not significantly associated with 'fetal malnutrition' were smoking, being on welfare, being unmarried, obesity, underweight, maternal age, and number of school years completed."

p. 62

"Preliminary results suggest that the lower birth weights of infants born to smoking mothers are associated with a shorter body length of the infants and not to reduced weight-length ratios."

p. 67

Goldstein, H. & P. J. Wedge, "The British National Child Development Study," World Health Statistics Report 28(5): 202-212, 1975.

"There still remains the question, however, of whether the association with birth weight and mortality is causal or simply a consequence of a link with a third factor, such as the constitution of the mother. As we have already said, it is ultimately impossible to resolve this through epidemiological studies alone."

p. 209

Reckzeh, G., et al., "Testing of Cigarette Smoke Inhalation for Teratogenicity in Rats," Toxicology 4: 289-295, 1975.

"No significant differences were found for litter weights, litter sizes, length of fetuses, number of implantation sites and the incidence of resorptions in utero between smoke-exposed and control mothers. . . . There is . . . no significant statistical evidence of malformations in human newborns whose mothers smoked during pregnancy."

p. 294

2026259374

Belcher, J. R., "Changing Patterns of Cancer," British Medical Journal, p. 523, February 28, 1976.

"If a comparison is made between the average consumption among women who reached 45 ten years ago and those now reaching that age it can be shown that the latter had substantially higher cigarette consumption per head than that of their elder sisters, the difference being in the order of 3:2, but they have a falling incidence of bronchial carcinoma. Surely there must be another factor at work."

Myddelton, Geoffrey, "Mortality from Lung Cancer," The Lancet, pp. 740-741, April 3, 1976.

"[I]t is clear that 4 out of 5 cases among women have nothing to do with cigarettes, and the steady rise in the disease must have some other cause. Air pollution by carcinogens is the obvious answer, and the most likely cause of this is the internal combustion engine, especially the diesel. Enthusiasm for the cigarette theory should not be allowed to hold back the thorough investigation of every possible factor."

p. 741

Kennedy, A., "Mortality from Lung Cancer," The Lancet, p. 965, May 1, 1976.

"Despite a rise in the number of cases [of lung cancer in women] seen during the period studied it was only in the later years that this was accompanied by an increase in the proportion of smokers among the patients. It might also be expected that, if the increase was due to smoking, there would be an increase in the proportion of squamous and oat cell cancers seen, but there was no evidence of this. This suggests either that smoking has no influence on the cell type of the tumour in British women or that the increase in incidence was due to some other, undiscovered factors. . . . I suggest that to concentrate all our efforts on a reduction in the smoking habit may lead us to neglect other causes of carcinoma of the lung."

2026259375

Harley, H. R. S., "Cancer of the Lung in Women," Thorax 31(3): 254-64, June, 1976.

"[I]f the increase [of lung cancer] in women is due to increased smoking there should be a change in the proportions of the histological types of cancer, and this has not occurred in either Britain or the USA. . ."

p. 260

"[T]he incidence of cancer of the lung in men and women is influenced by sex and nationality, but that the role of environmental factors, including tobacco, in women is obscure and may vary in different parts of the world."

p. 260

Barbieri, M. A., "A Longitudinal Study of Growth of Low-Birth-Weight Infants," The Journal of Pediatrics 89(2): 320-326, August, 1976.

"The results revealed that all of the curves of growth and growth velocity are similar to those of normal children. However, growth velocity in the low-birth-weight children of this study was greater than growth velocity of normal children during the first six months and the first year of life. There is a tendency for growth to approach that of the normal children by 12 to 24 months."

p. 322

2026259376

Hollingsworth, D. R., et al., "Abnormal Adolescent Primiparous Pregnancy: Association of Race, Human Chorionic Somatomammotropin Production, and Smoking," American Journal of Obstetrics and Gynecology 126(2): 230-237, 1976.

"It was surprising that in our 271 normal pregnancies there were more smokers (47 per cent) than in the 135 abnormal pregnancies (38 per cent). . . In mothers who had small infants (<2,500 grams), there were actually fewer smokers than nonsmokers. This may be an important observation as Yerushalmy has noted that women who subsequently became smokers also had a high incidence of low-birth-weight infants during the period before they started to smoke. His evidence appeared to support the hypothesis that the higher incidence of low-birth-weight infants was due to the patient, not the smoking."

p. 236

2026259377



Leshan, L.L. & R.E. Worthington, "Personality as a Factor in Pathogenesis of Cancer: A Review of the Literature," British Journal Medical Psychology XXIX(1): 49-56, 1956.

"As one examines these papers, one is struck by the fact that there are consistent factors reported in studies which gathered their material in different ways. There appear to be four separate threads which run through the entire literature. These are: (1) the patients loss of an important relationship prior to the development of the tumour; (2) the cancer patient's inability successfully to express hostile feelings and emotions; (3) the cancer patient's unresolved tension concerning a parental figure; and (4) sexual disturbance."

p. 54

Kissen, D.M., "Possible Contribution of the Psychosomatic Approach to Prevention of Lung Cancer," Medical Officer, pp. 343-345, December 24, 1965.

". . . those with a poor outlet for emotional discharge appear to have more than four and a half times the mortality rate for lung cancer compared with those with a good outlet, and more than two and a half times the rate of those with a moderate outlet."

pp. 343-344

Eysenck, H.J., Smoking, Health and Personality, Basic Books, (New York, 1965) 166 pp.

". . . the evidence on the whole tends to support the view that constitutional factors in general and personality factors in particular are correlated with proneness to cancer."

pp. 116-117

Syme, S. L., "Is There a Future for the Epidemiologic Study of Coronary Heart Disease?" Paper Presented at the Meeting of the American Public Health Association, Detroit, November 11, 1968.

"Seventh Day Adventists may have lower death rates from all causes for a number of reasons. It may be, for example, that SDA's constitute a highly selected group of people either in terms of genetics or of personality or of both."

p. 4

Seltzer, C. C., Testimony, Hearings Before the Committee on Interstate & Foreign Commerce, House of Representatives, pp. 531-544, April 15-May 1, 1969.

"It has been suggested by many scientists that such an explanation may lie in the constitutional and genetic factors involved in coronary heart disease and in smoking behavior. That there is a strong genetic factor in the etiology of coronary heart disease is well accepted, and there is a growing body of evidence that smokers as a group differentiate themselves from nonsmokers in a large variety of biological ways including 'style of life.' If smokers develop coronary heart disease because they are different kinds of people than nonsmokers, more vulnerable constitutional types, this could well explain the statistical association of excess heart disease among cigarette smokers."

p. 533

2026259380

Walter, E. & J.C. Walters, "Anxiety of Smoking and Nonsmoking Pregnant Women," Paper Presented at the Ninth Annual Meeting of the Society for Psychophysiological Research, October 16-19, 1969. (Abstract Only)

"Results of recent investigations into the psychological characteristics of smokers and nonsmokers suggests that the two differ in certain psychological traits. Eysenck (1960) had theorized that extraverts could be expected to smoke more cigarettes than introverts. . . . Eysenck (1965) postulated that extraverts suffer from a 'kind of stimulus hunger,' and thus have a need to partake of stimulating foods and drugs. His studies on male extraverts and introverts confirmed his hypothesis; Smith (1967) confirmed these results in females.

"Comparison of the two groups [smokers & non-smokers] on the Mann-Whitney U showed the smokers to have significantly higher anxiety scores than the nonsmokers."

Feinstein, Alvan R., "Sources of 'Transition Bias' in Cohort Statistics," Clinical Pharmacology and Therapeutics 12(4): 704-721, July-August, 1971.

"[P]eople who choose to smoke cigarettes, to eat low-fat diets, or to use the 'pill' may have distinctly different prognostic characteristics from people who do not choose these maneuvers."

p. 715

"[A]n epidemiologist must be particularly alert for the possibility that such 'psycho-genetic' features as psychic state, ethnic background, and parental longevity may be predisposing factors to such target events as disease and death."

p. 718

2026259381



Jenkins, C. D., et al., "Association of Coronary-Prone Behavior Scores with Recurrence of Coronary Heart Disease," Journal of Chronic Disease 24(10): 601-610, 1971.

"Evidence has been accumulating in recent years that social and psychological factors are involved in an important way with the etiology of coronary heart disease. . . .

"This overt behavior pattern (Type A) has been shown to be associated with increased prevalence of coronary heart disease (CHD) by three different research groups. . . ."

p. 601

Burch, P. R. J., "Smoking and Cancer," Lancet 1: 939-940, April 28, 1973.

"So far, I have been unable to devise any causal hypothesis of the effect of cigarette smoking that is clearly consistent with the epidemiological evidence for lung cancer: neither have I been able to falsify the constitutional hypothesis."

p. 940

2026259382

Coan, R.W., "Personality Variables Associated with Cigarette Smoking," Journal of Personality and Social Psychology 26(1): 86-104, May, 1973.

"Obviously it behooves us as scientists to recognize that the well-substantiated correlation between smoking and lung cancer is not definitive evidence that the former causes the latter. . . . smoking is but one symptom of a pattern of living that is generally hazardous. Thus, the cancer could be a consequence of varied stresses associated with smoking, not a consequence of smoking itself."

p. 103

Barnard, C. N., Heart Attack: You Don't Have to Die, Dell Publishing Company (New York, 1973).

"On deeper scrutiny, however, it is apparent that smokers and nonsmokers are different kinds of people with clear-cut differences in such things as their food preferences. Colleagues of mine in Cape Town showed some years ago that smokers eat more meat and eggs than do nonsmokers and have subtle differences in their sense of taste. It may easily be these basic differences, then, rather than smoking itself, which are responsible for any variations in coronary heart disease incidence rates."

p. 76

Rae, G. & J. McCall, "Some International Comparisons of Cancer Mortality Rates and Personality: A Brief Note," The Journal of Psychology 85: 87-88, 1973.

"The positive correlations obtained between extraversion and lung cancer rates in both males and females and the negative correlations between these rates and anxiety lend tentative support, on a cross-national basis, to Eysenck's postulate that 'persons constitutionally predisposed to take up smoking are also constitutionally predisposed to develop cancer.'"

p. 88

Hickey, R.J., et al., "Aryl Hydrocarbons, Smoking and Lung Cancer,"  
New England Journal of Medicine 390(10): 576-577, March 7, 1974.

"The association of cigarette smoking behavior with lung cancer risk is well known, but inference of causality from correlation is invalid. Moreover, ecologically acceptable animal studies have generally failed to support the hypothesis that cigarette smoking causes lung cancer. An alternative hypothesis, that cigarette smoking and lung cancer risk are influenced by a common cause - the individual constitution or genotype - appears compatible with observed data. Smoking may be symptomatic of constitutional deficiencies that render smokers, on the average, more vulnerable than nonsmokers to damaging effects of air pollutants."

p. 577

Corday, Eliot & Stephen Richard Corday, "Prevention of Heart Disease by Control of Risk Factors: The Time Has Come to Face the Facts,"  
The American Journal of Cardiology 35(2): 330-333, February, 1975.

"It is evident that heredity is a most important factor in the ideology [sic etiology] of arteriosclerosis."

p. 332

2026259384

Burch, P.R.J., "Problems in the Interpretation of Cancer Statistics With Special Reference to Lung Cancer," Journal Society of Occupational Medicine 25: 2-10, 1975.

"My analysis. . . indicates that most human cancers, as recorded in national mortality statistics, are spontaneous in origin. I infer that they arise, in genetically predisposed persons, as the result of the intrinsic instability of genes in stem cells of the central system of growth-control."

p. 9

"The largest study available so far of mortality in twins appreciably discordant for smoking habits is that of Friberg et al. (1973), carried out in Sweden. Among 572 discordant pairs of MZ [monozygotic] twins, 31 'first' deaths had been recorded among non- and 'low'- smokers and 32 among the 'high'-smoking group. The equality of death-rates among the 'low' and 'high' smoking members of discordant MZ pairs agrees with the expectations of the constitutional hypothesis and conflicts with the causal hypothesis."

p. 9

Burch, P. R. J., The Biology of Cancer, A New Approach, Baltimore, University Park Press, 1976.

"Those epidemiological studies that purport to show a casual connection between cigarette smoking and various cancers, but particularly lung cancer, fail when examined critically to establish the causal claim. In this context I have no option but to reject the conclusions of 'authoritative committees and commissions' and to concur with Fisher (1959), Berkson (1959) and others in proposing that the positive (and negative) associations between smoking and various malignant diseases have a genetic origin."

p. 395

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Cherry, Nicola, et al., "Personality Scores and Smoking Behaviour,"  
British Journal of Preventive and Social Medicine 30: 123-131, 1976.

"Extraverts were more likely to smoke than  
introverts . . . ."

p. 123

"[T]here were systematic differences between  
smokers and non-smokers in their answers to  
the questions on personality. [T]his was so  
for both men and women."

p. 124

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11. BENEFITS & MOTIV.

Maddison, David, "The Positive Side of Smoking," Applied Therapeutics, pp. 928-932, October, 1962.

"It may well then be that for some individuals smoking is the lesser of two evils, perhaps the least of many. The impression of this particular psychiatrist . . . is that the tobacco habit has a definite social value and one which, in perhaps more instances than we like to think, is a significant aid to personality integration."

p. 929

Frankenhaeuser, Marianne, "Behavior and Circulating Catecholamines," Brain Research 31: 241-262, 1971.

"The influence of cigarette smoking on catecholamine output in healthy moderate smokers was examined . . . [A]drenaline excretion was higher in all smoking conditions than in a control condition without smoking, and . . . the excretion rate increased consistently with the number of cigarettes smoked."

p. 255

"[T]he importance of circulating adrenaline for a variety of psychological functions has been clearly demonstrated by experimental results . . . The data available today suggest that the concept of adrenaline as an 'emergency hormone,' facilitating fight and flight reactions under conditions inducing rage and fear, should be extended to include also the coping behavior of healthy individuals exposed to everyday stress situations."

p. 259

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Frankenhaeuser, Marianne, "Behavior and Circulating Catecholamines," Brain Research 31: 241-262, 1971.

"[S]moking counteracts the deterioration of performance that occurs in tests on simple reaction time requiring sustained concentration in monotonous situations. Thus, reaction time was significantly shorter when the subjects smoked 3 cigarettes while performing an 80-min test than in a control condition without smoking."

pp. 255-256

Myrsten, Anna-Lisa, et al., "Changes in Behavioral and Physiological Activation Induced by Cigarette Smoking in Habitual Smokers," Psychopharmacologia (Berl.) 27: 305-312, 1972.

"[S]moking may counteract the gradual decrease in efficiency which typically occurs in a boring, monotonous situation."

p. 305

Nelson, J. M. & L. Goldstein, "Chronic nicotine Treatment in Rats: 1. Acquisition and Performance of an Attention Task," Res. Comm. Chem. Path. Pharmacol. 5(3): 681-693, May, 1973.

"Our conclusion is that chronic nicotine treatment does improve the efficiency of responses to goal- or incentive-related stimuli without causing or being accompanied by a generalized increase in gross activity."

p. 692

Selye, H., "Smoking Introductory Remarks," Chapter 1 in: Smoking Behavior: Motives and Incentives, W. L. Dunn Ed., V. H. Winston & Sons (Washington, D. C., 1973), 309 pp.

"The choice is not 'to smoke or not to smoke,' but whether to smoke, or to overeat, to drink, to drive on polluted and crowded highways, or merely to fret and bite our fingernails to avoid boredom and give vent to our pent-up energy."

p. 2



Driscoll, Peter & K. Bättig, "Cigarette Smoke and Behavior: Some Recent Developments," Review of Environmental Health , pp. 113-133, 1973.

"In addition to relieving tension and helping to concentrate, other common reasons for smoking may be to counteract loneliness (Bättig and Perret, 1971), and to offset boredom."

p. 116

Seltzer, C. C., "Effect of Smoking on Blood Pressure," American Heart Journal 87(5): 558-564, May, 1974.

"These data suggest that cigarette smoking tends to have an inhibiting effect on blood pressure, with minimal pressure rises even instances of substantial weight gain. When this inhibiting effect of cigarette smoking is removed, as in the case of the quitters, sharp rises in blood pressure are evident."

p. 563

Schechter, Martin D., "Effect of Nicotine on Response to Frustrative Non-Reward in the Rat," European Journal of Pharmacology 29: 312-315, 1974.

"If smoking lowers hostility in humans, as indicated by recent investigations, . . . this may be a factor in the continuance of the smoking habit, and may be viewed as a 'beneficial' effect for a much-maligned habit."

p. 314

Wehner, Alfred P., et al., "Increased Life Span and Decreased Weight in Hamsters Exposed to Cigarette Smoke," Archives of Environmental Health 31: 146-153, 1976.

"In this paper, the effect of chronic exposure to cigarette smoke on life span and body weight [of hamsters] is described."

p. 146

"The most surprising result of our experiments [with hamsters] was the fact that groups having received chronic exposure to cigarette smoke lived significantly. . . longer than their sham-smoke-exposed cohorts and the controls."

p. 151

Editorial, "Here's One For Smokers," Daily Town Talk, Alexandria, La., October 14, 1976.

"Psychologists Michael Lewis and Paul Nesbitt of the University of Nevada at Reno . . . conclude that smokers may be better at putting up with frustration, and they seem especially tolerant of frustration while actually smoking.

"Smokers currently puffing away also seemed less disturbed when listening to tape recordings of loud words."

"Thus, smokers may handle frustrating jobs with more persistence than do nonsmoking employees and may even perceive a difficult position as less frustrating, Lewis and Nesbitt speculate."

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12. CONTROVERSY

Berkson, J., "Smoking and Lung Cancer: Some Observations on Two Recent Reports," Journal of the American Statistical Association 53(281): 28-38, March, 1958.

"Cancer is a biological, not a statistical problem."

p. 32

Fisher, R., Smoking: The Cancer Controversy, J. and J. Gray, 1959.

"I do not relish the prospect of this science [statistics] being now discredited by a catastrophic and conspicuous howler. For it will be as clear in retrospect, as it is now in logic, that the data [of cigarettes allegedly causing cancer] so far do not warrant the conclusions based upon them."

p. 10

Committee Report, Project for Research on Tobacco & Health, AMA-ERF, p. 5, January 1, 1968.

"The Conference clearly indicated that problems related to establishing any kind of cause and effect relationship between tobacco use and health are far more complex than had been supposed. The products of tobacco combustion are varied and many. New techniques must be developed for their separation, for their administration and for their study. In addition, the effects of smoking must be separated from effects due to the continually changing environment associated with air pollution due to the rise of the gasoline engine and the increasing pollution due to industrial wastes. It appears that we have a long road to travel, that this will be done slowly and that many years may be required to gather sufficient experimental facts and data to clear what is at best a muddled picture."

Langston, H. T., "The Thorax, Pleura and Lungs," Chapter 19 in Christopher's Textbook of Surgery, L. Davis, Ed., W. B. Saunders Co., (Philadelphia, 1968).

"The evidence incriminating cigarettes in that report [Smoking and Health] came from statistical surveys. Whereas the statistical correlations may show an association between heavy cigarette smoking and the occurrence of lung cancer, clinical facets of the disease strongly dispute the cigarette's role as etiologic agent."

p. 482

Rosenblatt, M. B., "The Increase in Lung Cancer: Epidemic or Artifact?" Medical Counterpoint 1: 29-39, March, 1969.

"The prodigious increase in lung cancer during the past three decades is not due to the exposure of the population to an alleged carcinogen but is the natural consequence of the widespread use of diagnostic techniques not previously available. The intense interest in lung cancer has also produced a tendency toward overdiagnosis of the disease on the basis of radiologic, biopsy, and cytologic findings which are often not substantiated by autopsy."

p. 38

"Since the latter part of the 19th century, there has been a progressive increase in the percentage of cases of lung cancer diagnosed prior to autopsy."

p. 31

"It would have been impossible to diagnose the unautopsied cases a few decades ago, and the increase in lung cancer is, therefore, largely dependent on diagnostic progress. . . . The progressive decline in the rate of increase suggests that the image of a lung cancer epidemic is an illusion."

p. 32

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Carr, D., Statement, Hearings Before the Committee on Interstate and Foreign Commerce, House of Representatives, pp. 849-858, April 15-May 1, 1969.

"Unfortunately, many supposedly well informed officials in the PHS and certain voluntary health organizations have permitted their emotionalism and zeal to out-distance the actual scientific knowledge and proof. This has resulted in misleading the public into believing there is proof where none exists."

p. 851

Rosenblatt, M. B., Statement, Hearings Before the Committee on Interstate and Foreign Commerce, House of Representatives, pp. 1255-1263, April 15-May 1, 1969.

"The widely publicized accusations of hundreds of thousands of deaths caused by cigarettes, and of shortening life expectancy a specific number of minutes per cigarette smoked are fanciful extrapolations and not factual data."

p. 1256

Iees, T. W., "Association Between Smoking and Disease," Presented to the Standing Committee on Health, Welfare & Social Affairs, House of Commons, Ottawa, Canada, May 12, 1969.

"In the context of smoking and disease, association has been confused with causation. That a statistical association might be found between these two factors has never been disputed. But the decision whether such an association is causative or non-causative is a separate act of judgment which must be based on medical evidence - clinical, pathological, or experimental."

p. 2

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Rosenblatt, M.B., et. al., "Validity of Lung Cancer Mortality Data," Bulletin of the New York Academy of Medicine, 45(6): 519-527, June, 1969.

"It is of considerable significance that in only 40.4% of the cases the diagnosis of bronchogenic carcinoma was confirmed at autopsy and in 59.6% of the cases it was not. It is apparent, therefore, that bronchogenic carcinoma was greatly overdiagnosed during a decade (1958 to 1968) in which interest in the disease was at a high peak. If these results are representative of the findings in most general hospitals, and there is every reason to assume that they are, then the actual lung cancer mortality in the United States is distinctly less than half of the official figures. The majority of the cases certified as lung cancer are in actuality cases of pulmonary metastases from extrathoracic occult malignancies, predominantly carcinomas."  
pp. 524-525

Preyer, Richardson, Congressman, (Former U.S. District Judge), Hearings Before the Committee on Interstate & Foreign Commerce, House of Representatives, p. 380, 1969.

"I wonder if one of the reasons is not that in the calm of the courtroom, where you have to prove your case and not just make charges, that it is a little bit harder to nail these things down than it appears on the surface.

"The only thing I am saying is that I think we are so convinced of the rightness of our cause sometimes that we aren't stopping to really look at the facts on it."

Alvarez, C., "Some Statistical Practices We All Should Know," Modern Medicine, pp. 63-65, June 29, 1970.

"It is a terribly dangerous thing for a man to start a statistical bit of research with either a strong conviction as to how things will come out, or a great reluctance to reach an unpleasant conclusion."

p. 65

Ludwig, E. G. & J. C. Collette, "Some Misuses of Health Statistics," Journal of the American Medical Association, 216(3): 493-499, April 19, 1971.

"The quality of research appears to be rather strongly related to the purposes for which the data are intended and the nature of the sponsoring agency. Data used for propaganda often suffer from most, if not all, of the fallacies we have described. Typically they are incomplete, based upon inadequate sampling, and do not relate to a general body of knowledge on the subject."

p. 499

Hickey, R.J., "Air Pollution," Chapter 9 in: Environment-Resources, Pollution & Society, Sinauer Assoc., pp. 189-212, 1971.

"The evidence implicating smoking, particularly cigarette smoking, as a cause of lung cancer is based primarily on statistical evidence. . . . Since statistics are heavily involved, one might inquire whether the statistics have been interpreted with the rigorous objectivity demanded by science. Too often, unfortunately, when statistics are used in a problem which has some 'moral' overtones (some religions proscribe tobacco use; puritanism is skeptical of pleasure), biased, subjective interpretations may not be far behind."

p. 206

Hickey, R., "Environmental Chemical Mutagens: Are They Health Hazards?" (Excerpt printed in Ecolibrium), Ecolibrium 1(1): 12, June, 1972.

"It is a much too common part of scientific methodology these days, in dose-response experiments in biology, to employ unrealistically high doses. . . of some chemical at varying levels in studies on small numbers of inbred experimental animals. It is also commonplace to extrapolate high level findings into quite low dosage regions in which it is quite difficult to detect effects, and to assert on the basis of subjective judgment or opinion something about the effects in this low dosage region and what it means to human health. How much regulation or law has been made by such speculation I will leave to you to estimate. Based on my understanding of science and scientific methods, extrapolation into unknown regions is scientifically invalid, and should be called by its proper name: speculation."



Oster, K. A., "Predisposition to Atherosclerosis," Journal of the American Medical Association 222(6): 704, November 6, 1972.

"The danger of these epidemiological studies is that they try to get much yield from little effort. It is time, in my opinion, that different approaches to the prevention of atherosclerosis are tried, especially by the NHLI, instead of juggling stale and insufficient data."

Rosenblatt, M. B., et al., "Diagnostic Accuracy in Cancer as Determined by Post Mortem Examination," Progress in Clinical Cancer 5: 71-80, 1973.

"The under diagnosis of most carcinomas sharply contrasts with the over diagnosis of bronchogenic carcinoma. The reasons for the latter vary but, in general, they are the result of renewed interest in the disease, diagnostic enthusiasm and reliance on techniques that are not infallible."

pp. 76-77

". . .the epidemic increase is based chiefly on medical certification and not on autopsy findings. When our findings were compared with those obtained in the late 19th century and early 20th century, it is found that the autopsy incidence of lung cancers was higher in those eras."

p. 77

Schievelbein, H., "On the Question of the Effect of Tobacco Smoke on the Morbidity of Non-Smokers," Internist 14(5): 22, 1973.  
(Translation)

"It goes without saying that speculations and conclusions based on speculations have no room in a scientific report. It appears necessary to say this, because rarely has there been more speculation in any area of medicine than in that of 'smoking and health.'"

2026259398

Werko, Lars, "The Borderline Between Health and Disease, Prevention or Treatment?," Early Phases of Coronary Heart Disease: The Possibility of Prediction, Edited by Waldenstrom, et al., Nordiska Bokhandelns Forlag, pp. 341-362, 1973.

"The connection between the risk factors we usually consider and the later incidence of clinical coronary artery disease is a purely statistical one. It does thus not by itself mean any cause-effect relation, something which is, however, not always clearly realized."

p. 349

"The animal models used to study the development of arteriosclerosis, and in particular coronary arteriosclerosis, ischaemic heart disease and myocardial infarction are not representative of the human disease. Consequently, though much work has been invested in these animal experiments few conclusions can be drawn from the results of these to the clinical or human situation. This is especially true for the huge literature on dietary studies using maximally distorted diets with fats, carbohydrates, proteins and vitamins in non-realistic relations when compared with ordinary clinical situations. This is also true for animal studies on behaviour, cigarette smoking (or influence of nicotine or of carbon monoxide). It may be equally true for the animal or model studies on the effect of physical exercise, psychic stress, or high blood pressure on the development of coronary artery disease."

p. 350

"Too much statistical efforts and too little biological common sense have been applied in most cases leading to statistically valid results of little biological meaning."

p. 350

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Werko, Lars, "The Borderline Between Health and Disease, Prevention or Treatment?," Early Phases of Coronary Heart Disease: The Possibility of Prediction, Edited by Waldenström, et al., Nordiska Bokhandelns Forlag, pp. 341-362, 1973.

"[H]alf of the cases of CHD occurring in the U.S.A. cannot be explained by theories involving the current risk factors only. This means that other less known, supposed or completely unknown factors are as important for this disease as all the often discussed risk factors together. Also demonstrating the magnitude of ignorance is the complete lack of explanation for the marked geographical differences in incidence of CHD--both within the United States, between the United States and Europe and within Northern Europe."

p. 357

". . .lack of exactness and piercing thought cannot be compensated for by sophisticated statistics."

p. 358

Burch, P. R. J., "Smoking and Coronary Heart Disease (Cont.)," New England Journal of Medicine, 290(6): 345, February 7, 1974.

"To attribute mortality differences between doctors and the general male population to changes in smoking habits--in the absence of any quantitative analysis of cause and effect--is to replace scientific method by wishful thinking."

Burch, P. R. J., "Smoking and Lung Cancer: Burch's Reply," New Scientist, p. 559, February 28, 1974.

"Expositions of the causal hypothesis suffer, I submit from two outstanding weaknesses. They rely heavily on qualitative statements unsupported - and sometimes contradicted - by quantitative evidence. Second, no mechanism of tobacco carcinogenesis has been proposed that can be tested quantitatively."

Feinstein, A. R. & C. K. Wells, "Cigarette Smoking and Lung Cancer: The Problems of 'Detection Bias' in Epidemiologic Rates of Disease," Clinical Research, 22(3): 555, April, 1974.

"'Detection bias' can distort the statistical data of a cause-effect association if a disease that sometimes escapes detection is diagnostically sought with more vigor in patients exposed to the alleged cause than in patients without such exposure. Since many lung cancers are not diagnosed during life, detection bias might create a falsely high association with cigarette smoking if smokers were particularly likely to receive diagnostic tests for identifying the cancer.

"These results, which suggest that the current increase of lung cancer in women may arise mainly from improved detection, also evoke suspicions that cigarette smoking may lead more to the diagnosis of lung cancer than to the disease itself."

Haydon-Baillie, M., FRCS, "Responsible Enthusiasm," World Medicine, London, Cutting #3096, June 19, 1974.

"[F]irstly, I for one do not credit the simple belief that smoking is a cause of pulmonary disease; secondly, those persuaded to relinquish smoking tend to overeat thereafter; and thirdly, the review of statistics by Hinshaw and Garland shows inexplicable variations in the incidence of lung cancer in smokers, notes that cancer of the more affected larynx is comparatively rare and concludes that the lung cancer incidence in smoking females has been declining since 1960 and that in males it will decline from a peak in 1983."

2026259401

Oser, B. L., "The Misuse of Scientific Data," Paper Presented at the AIC/AAAS Symposium on "Responsible Use and Misuse of Scientific Data," January 26, 1975. (Abstract Only)

"Scientific data are generally assumed to findings, generally expressed in numerical terms, from which inferences may be drawn. The validity of the interpretation of scientific data to establish 'facts' depends upon the design of the investigation, the reliability of the observation, and the competence and integrity of the investigator, or whoever is responsible for the interpretation. To represent scientific data as ultimate truth ignores the subjective aspects of both the investigation and the inferences drawn from it.

"Properly used, scientific data not only add to our store of information, but generate new hypotheses and concepts which may further advance the frontiers of science. Misused, whether by laymen or by scientists themselves, such data may perpetuate ignorance, cause confusion and ultimately impair confidence in, and support of, science."

Huber, G.L., "Smoke and Heat," New England Journal of Medicine 298(1): 48-49, July 3, 1975.

"Controversy continues to surround many issues related to smoking. When scientific data on the effects of an agent on health are incomplete, as they are on the tobacco question, reactions in many people are derived far too often from an emotional rather than an objective basis. I should like to make a plea as a partisan for objective science. Emotional arguments with a moral flavor, presented without scientifically acceptable data, have, in my judgment, no place for solving problems as serious as this one.

"In other words, results or conclusions should not be presented or interpreted with a preconceived bias of the investigator or, for that matter, of the reader. Unfortunately, for reasons I cannot fully understand, this course has far too often been followed in questions of tobacco and health. Rather, definitive answers should be obtained by careful scientific endeavors designed to test in an objective and honest manner a clearly delineated hypothesis."

p. 48

2026259402

Seltzer, C. C., "Smoking and Cardiovascular Disease," American Heart Journal 90(1): 125-126, July, 1975.

"The history of medicine throughout the centuries contains many examples of evangelical fervor for etiologic or therapeutic theories that were later shown to be wrong. A prime responsibility of epidemiologists is to maintain the skepticism of science amidst the passions of evangelism. If smoking is related to CHD in only a limited segment of the population, the people who are not at risk will hardly be benefited by blunderbuss interventions aimed at everyone. If smoking is not causally related to CHD, the true situation will never be discerned unless investigators observe the cardinal scientific principle of ruling out counter-hypotheses. Until conclusive proof is available, the health of the public and the welfare of science demand a balanced consideration of all the available evidence."

pp. 125-126

Sterling, T. D., "A Critical Reassessment of the Evidence Bearing on Smoking as the Cause of Lung Cancer," American Journal of Public Health 65(9): 939-953, September, 1975.

". . .the belief that smoking is a major cause of lung cancer still lacks definitive experimental demonstration but depends almost exclusively on the result of statistical surveys. The designs and execution of these surveys have been severely criticized (as well as hotly defended) in the past, and the discovery that the antecedents of lung cancer are found in many alternative and interactive causes may again create the need to reevaluate the results of these epidemiological studies."

p. 939

"If we pull together the information which has become available in the last few years about the prospective studies, we find substantial support for the possibility that the findings linking smoking to lung cancer, and perhaps also to other diseases, were due to a faulty selection process that introduced a large number of biases."

pp. 945-946

"The readiness with which the existing evidence has been accepted as demonstrating causality for cigarette smoking perhaps is the best measure for the desire to keep our world simple and orderly. But cancer is a complex disease."

p. 949

Eskwith, I.S., "Etiology of Atherosclerotic Heart Disease,"  
American Heart Journal 90(6): 809-810, December, 1975.

"Over the years, physicians have assumed many diseases to be caused by tobacco. Had they been true, the cities and towns in America today would be desolate. Buffalo would once more be roaming the plains and the rivers would be again teaming with the great numbers of fish that Henry Hudson viewed in the river named for him. Furthermore, the Japanese who respond as we do to tuberculosis, pneumonia and carcinoma, indulge in a high rate of cigarette smoking but have a low incidence of coronary artery disease."

p. 809

Blumenthal, H. T. & M. Alex, "Special Issue on Athero-Arteriosclerosis," Gerontologia 21(3): 129-76, 1975.

"We are currently in a period of mounting crusades against cancer and heart attacks in which the impression is being created that all biomedical scientists are in accord in respect to the direction of future research. The pressure to conform follows from the fact that the funding agencies of government are appropriating large sums for research in these areas, while reducing the support for other spheres of health research. Perhaps it is relevant to note that several centuries ago it was pointed out that if one acts for long enough as though one believes, the grace of faith will eventually be given. We appear to be in a period when many biomedical scientists feel a need to behave as devout believers if they are to merit research support."

p. 135

2026259404

Blumenthal, H. T. & M. Alex, "Special Issue on Athero-Arteriosclerosis," Gerontologia 21(3): 129-76, 1975.

"[A]thero-arteriosclerosis has been transferred from the category of aging to one of disease, even though the recent Task Force on Arteriosclerosis report confesses that the basic etiology of this disorder remains elusive. Perhaps the elimination of athero-arteriosclerosis from the category of aging has been premature, since chronological age appears to provide the best correlate with this disorder."

p. 144

"For over two decades we have been subjected to popular campaigns to reduce calorie consumption, to give up cigarette smoking, to substitute polyunsaturated for saturated fats, to reduce life's tensions, and to exercise adequately. The benefits of such campaigns, judging from mortality rates and life expectancy data, are hardly spectacular."

p. 144

Bailar, John C., III, "Bailar's Laws of Data Analysis," Clinical Pharmacology and Therapeutics 20: 113-9, 1976.

"When an idea becomes 'locked in' to the social fabric, it is the rare individual who can disregard or challenge that idea. It is far easier to set out to prove that which is already accepted."

p. 116

Kornegay, Horace R., President, The Tobacco Institute, Statement, Hearings Before the Subcommittee on Health of the Committee on Labor and Public Welfare, United States Senate, February 19, 1976.

"[S]cientists do not understand the pathogenesis of bronchitis or emphysema (any more than they do the pathogenesis of cancer or cardiovascular disease). Scientists do generally agree that chronic bronchitis and emphysema are multifactorial. But which of the observed factors, if any, plays a role in their causation remains unknown."

p. 360



Preyer, Richardson, Statement, Hearings Before the Subcommittee on Health of the Committee on Labor and Public Welfare, United States Senate, 1976.

"After all, the decision to smoke is only one of many personal decisions which may or may not have a bearing on health. Such things as exercise, the amount and kinds of food consumed, or - if we believe one recent study - whether one gets more or less than eight hours of sleep a night - all of these things are statistically related to longevity, and in some cases to specific diseases. Of course there is no thought of taxing in these areas; here the government must be content to advise. I would put smoking with these other personal decisions and would suggest that the government's responsibilities are of the same nature here."

pp. 752-753

Cockshut, R. W., "Smokers and Alcoholics," British Medical Journal, p. 173, January 15, 1977.

"[T]he cause of cancer of the lung is not known. We have only statistical inferences and forecasts. [U]ntil it [the unknown factor] is discovered no one who values scientific evidence should assume that cigarettes cause cancer of the lung. There is a statistical connection between them just as there was an overwhelming case for compulsory vaccination which proved to be totally false. . . ."

Vandivier, Kermit, "All These 'Links' Don't Help Us One Little Bit,"  
News, Troy, Ohio, February 14, 1976.

"As a matter of fact, no proof has ever been presented that that old bugaboo, cigarette smoking, actually causes cancer. [P]roof, other than statistical 'proof,' has not yet been forthcoming."

"One of these days, and it can't be too soon, scientists will really discover what causes cancer. The question is, will we be able to recognize the truth when we finally do hear it?"

2026259407

13. BIAS IN SCIENCE

2026259408

Feinstein, Alvan R., "Sources of 'Transition Bias' in Cohort Statistics," Clinical Pharmacology and Therapeutics 12(4): 704-721, July-August, 1971.

"[P]eople who choose to smoke cigarettes, to eat low-fat diets, or to use the 'pill' may have distinctly different prognostic characteristics from people who do not choose these maneuvers."

p. 715

"[A]n epidemiologist must be particularly alert for the possibility that such 'psycho-genetic' features as psychic state, ethnic background, and parental longevity may be predisposing factors to such target events as disease and death."

p. 718

Feinstein, Alvan R., "Sources of 'Chronology Bias' in Cohort Statistics," Clinical Pharmacology and Therapeutics 12(5): 864-879, September-October, 1971.

"The basic scientific demands that might be made for demonstrating validity in laboratory investigations or in any other type of disciplined research have been singularly absent from the methods of cohort statistics. [G]reat heaps of existing data and interpretive concepts have been produced by methods that have no more validity in modern science than the tactics of alchemy would have in modern chemistry. These enormous methodologic deficiencies would inevitably lead to the massive controversies that now exist about the conclusions drawn from statistical studies of cause, course, and treatment, particularly for chronic diseases."

p. 878

2026259409

Hueper, Wilhelm C., "Lung Cancer and Smoking in Perspective," Lawyers' Medical Cyclopedica. . . of Personal Injuries and Allied Specialties, Charles J. Frankel, Ed., Revised Vol. Five, The Allen Smith Company, Indianapolis, pp. 559-568, 1972.

"A recent statement by the Surgeon General of the Public Health Service, as to the lack of need for any further research into the etiology of lung cancer (because this problem had been solved by the cigarette theory), reveals that this public health agency has erroneously accepted an indiscriminate and uncritical promotion of claims of most dubious scientific merits. . . ."

p. 560

Feinstein, Alvan R., "The Epidemiologic Trohoc, the Ablative Risk Ratio, and 'Retrospective' Research," Clinical Pharmacology and Therapeutics 14(2): 291-307, March-April, 1973.

"In susceptibility bias, an underlying factor (such as psychic stress or parental longevity) can influence an outcome event (such as coronary disease or early death), but can also affect a person's decision to self-select the alleged causal agent (such as a particular pattern of dietary intake or smoking)."

pp. 296-297

"If the risk ratios . . . can be so easily distorted by diverse sources of bias, an investigator's first scientific responsibility is to demonstrate that such bias is absent."

p. 303

2026259410

Feinstein, Alvan R., "The Epidemiologic Trohoc, the Ablative Risk Ratio, and 'Retrospective' Research," Clinical Pharmacology and Therapeutics 14(2): 291-307, March-April, 1973.

"The scientific validity of the data regarding smoking and lung cancer has long been regarded with suspicion because the investigators have failed to check two underlying sources of major bias . . . [S]mokers might be much more likely . . . to receive . . . examination procedures needed to diagnose lung cancer. The other source of bias is in susceptibility. Although R. A. Fisher proposed that a constitutional (and possibly genetic) factor might lead to both smoking and lung cancer, a simpler common factor that can predispose to both smoking and reduced longevity is psychic stress, which has never received satisfactory investigation in the epidemiologic appraisals of smoking and its consequences. The proper assessment of both these currently uninvestigated sources of bias [detection of disease and individual susceptibility] is of crucial scientific importance for the indictment against cigarettes."

p. 304

"It is the obligation of a scientific investigator--not of his audience--to consider sources of bias and to assemble suitable data that can help demonstrate whether bias is present or absent."

p. 305

"Modern scientists can accept the investigative ease of looking backward and the lure of simplistic statistical analysis--but the intellectual cost is high. The work itself must be done with the hard-headed thinking, properly chosen variables, and rigorously collected data that confer scientific credibility."

p. 306

2026259411

Barnard, C. N., Heart Attack: You Don't Have to Die, Dell Publishing Company (New York, 1973).

"We should be particularly cautious in accepting the opinions of the man who introduces his theories by saying, 'I am absolutely certain that--' or 'I have no doubt that--.' These are the researchers who have an emotional investment in their ideas and cannot divorce their prejudices and beliefs from the dispassionate objective task of scientific appraisal. These men read the literature and do research to sustain their theories rather than to examine them. They react to criticism with snarls and anger because their theories contain such a strong element of their emotional selves that they interpret any attack on their theories as an attack on their persons."

p. 52

"[T]he whole subject of coronary heart disease bristles with emotional overtones. Look at the terms that are used when the subject is discussed: 'the scourge of Western civilized man,' 'number one killer,' 'epidemic proportions,' 'consumer society.' These terms all convey, in addition to the factual information, the message of fear or guilt. The use of such expressions can be a valuable device for obtaining research funds or for manipulating public opinion to other ends, but it serves no other purpose."

pp. 53-54

2026259412

Gifford-Jones, W., "Fear of Dying," Maclean's, pp. 58-61, August, 1975.

"For some people, the case is closed. They accept the U.S. Surgeon-General's report as gospel. The more you smoke, the report said, and the longer you have been doing it, the greater your risk of dying from lung cancer. But the committee that produced the report carried out no new medical research. Instead, it conducted retrospective studies, in which people with lung cancer were questioned about their smoking habits, and prospective studies, which involved apparently healthy men and women, some of whom later contracted the disease. More than a million people were monitored over several years; 37,000 later died of various diseases, and their smoking habits were then compared.

"The results allegedly proved that the death rate for lung cancer was 10 times as high among smokers as among nonsmokers. The figures seemed so convincing that no one apparently wanted to disagree with them. But the great weakness of the report was that it was a statistical study, and statistics can be misleading. In fact, it was the statisticians who proved the loudest critics of the findings.

"For while the report showed that more smokers than nonsmokers died from stomach cancer, still other statistics indicated that as cigarette smoking has increased[,] deaths from stomach cancer have decreased. And, since people who have never smoked make up only a small part of the total population, how does one explain the disparity between the large number of smokers and the rarity of lung cancer? Nor has it been demonstrated that heavy smokers are stricken with lung cancer earlier in life than light smokers, which you might expect if smoking were actually the cause."

p. 58

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Gifford-Jones, W., "Fear of Dying," Maclean's, pp. 58-61, August, 1975.

"The report devotes 387 pages to condemning smoking, but only a few lines to its possible psychological effects. What would happen to 90 million North Americans if by some miracle they all stopped smoking? Would the removal of this 'comforter' cause stomach ulcers, hypertension, heart attacks or colitis? What would happen to older people deprived of the consolation of a quiet smoke? Has the scare taken away the pleasure? In a word, has cancerphobia done more harm than smoking? . . .

"The vast amounts of money that financed the Surgeon-General's report could have been more wisely spent on basic cancer research, or on other worldwide problems such as pollution, the energy shortage or over-population."

p. 61

Editor, "Statistical Errors," British Medical Journal, p. 66, January 8, 1977.

"One reason why mistaken ideas gain currency is . . . that erroneous conclusions are drawn from fallaciously observed data and published in respectable journals and uncritically accepted."

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Rensberger, Boyce, "Fraud in Research Is a Rising Problem in Science,"  
The New York Times, January 23, 1977.

"Scientists who cheat by faking their results or by selecting only those data that support their theories represent a phenomenon that often goes unrecognized by those who see scientists as unswervingly objective in the pursuit of truth."

"Some scientific leaders suspect the number of dishonest scientists is growing as a result of the increasingly fierce competition for grant money, which tends to go to researchers who can produce, or assert they can produce, the most impressive new findings in the shortest time."

"[S]cientists who cheat often begin by believing in their theories before they are proved and then conclude that it is justified to take risks to establish that truth in the minds of others [according to Dr. Luria, the M.I.T. virologist, and Nobel Prize winner]."

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